AMENDMENT

In the claims, please make the following amendments. This listing of claims will replace all prior listings.

1. (Currently Amended) A method of optimizing rotable inventory, comprising:

a user interface;

a processor that interfaces with the user interface ;

the user interface and the processor are in communication with a computer having a computer readable medium ~~and~~including instructions for executinge~~s~~ an algorithm to determine an optimized inventory level, the algorithm comprising the steps of:

selecting a desired customer service level;

obtaining at least one characteristic of a part repair lead-time distribution, wherein the at least one characteristic is a mean μ and a variance σ of the part repair lead-time distribution;

computing on the computer a proposed inventory level based on said at least one characteristic, wherein computing a proposed inventory level includes ~~refinancing~~ recomputing a probability term β having a distribution reflected by a difference term Δ_β and calculating the proposed inventory level as $I = A \cdot (R - W) - \mu + \Delta_\beta \cdot \sigma$, wherein I is the proposed inventory level, A is a part arrival value, R is a maximum repair time and W is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level;

selecting the proposed inventory level as the optimized inventory level if the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level; and

a memory that stores data to be used by the processor to execute the algorithm.

2.-3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein the probability term β is bound by a left bound value BL and a right bound value BR, and wherein the method further comprises:

shifting the probability term β to the left bound value BL and defining a new probability

term β between the left bound value BL and the right bound value BR if the calculated customer service level is less than the desired customer service level; and

shifting the probability term β to the right bound value BR and defining a new probability term β between the left bound value BL and the right bound value BR if the calculated customer service level is greater than the desired customer service level and if the difference between the calculated customer service level and the desired customer service level is greater than the selected convergence threshold.

5. (Original) The method of claim 4, further comprising repeating the computing, determining, comparing and shifting steps until the selecting step is executed.

6. (Original) The method of claim 1, further comprising repeating the computing, determining, and comparing steps until the selecting step is executed.

7. (Original) The method of claim 1, wherein the desired customer service level is a desired on-time delivery, and the calculated customer service level is a mean on-time delivery, wherein the desired on-time delivery and the mean on-time delivery are represented by a mean of a number of on-time delivered parts per time unit divided by a mean of arrivals per time unit.

8. (Original) The method of claim 7, wherein a number of arrivals per time unit is a constant number, and wherein the mean of arrivals per time unit is set equal to the constant number.

9. (Previously Presented) The method of claim 1, wherein the part arrival value is randomly variable.

10. (Previously Presented) The method of claim 9, wherein the method further comprises:

obtaining an arrival value having a distribution G and an inventory value having a distribution Φ;

obtaining a distribution of the calculated customer service level based from the distributions G and Φ; and

conducting the step of determining the calculated customer service level based on the distribution of the calculated customer service level.

11. (Original) The method of claim 9, wherein the method further comprises approximating the randomly variable number of arrivals per time unit with a constant number of arrivals per time unit.

12. (Previously Presented) The method of claim 1, wherein the method optimizes rotable inventory for an asset having a plurality of individual parts, wherein the step of selecting the desired customer service level comprises selecting the desired customer service level for the plurality of individual parts, and wherein the method further comprises:

conducting the obtaining, computing, determining, comparing, and selecting steps to obtain the optimized inventory level for each of said plurality of parts;

summing the optimized inventory level for each of the plurality of individual parts to obtain a total optimized inventory level;

calculating a total rotable inventory cost from the total optimized inventory level; and

minimizing the total rotable inventory cost.

13. (Original) The method of claim 12, wherein the minimizing step is conducted via a constrained optimization process.

14. (Cancelled)

15. (Currently Amended) A method of maintaining an optimized rotable inventory level, comprising:

determining an optimized inventory level, the determining step occurring on a computer having a computer readable medium including instructions for:

selecting a desired customer service level;

obtaining at least one characteristic of a part repair lead-time distribution, wherein the at least one characteristic is a mean μ and a variance σ of the part repair lead-time distribution;

computing on the computer a proposed inventory level based on said at least one

characteristic, wherein computing a proposed inventory level includes ~~refinancing~~ recomputing a probability term β having a distribution reflected by a difference term Δ_β and calculating the proposed inventory level as $I = A \cdot (R - W) - \mu + \Delta_\beta \cdot \sigma$, wherein I is the proposed inventory level, A is a part arrival value, R is a maximum repair time and W is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level;

selecting the proposed inventory level as the optimized inventory level if the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level; and

maintaining an inventory level responsive to said optimized inventory level.

16. (Previously Presented) The method of claim 15, further comprising a user interface.

17. (Previously Presented) The method of claim 16, further comprising a processor that interfaces with the user interface to determine the optimized inventory level.

18. (Previously Presented) The method of claim 17, further comprising a memory that stores data to be used by the processor to determine the optimized inventory level.

19. (Currently Amended) A computer readable medium, comprising instructions for:

interfacing a user interface with a processor;

storing data on a memory to be used by the processor to execute an algorithm;

executing the algorithm on the processor to determine an optimized inventory level, the algorithm comprising the steps of:

selecting a desired customer service level;

obtaining at least one characteristic of a part repair lead-time distribution, wherein the at least one characteristic is a mean μ and a variance σ of the part repair lead-time distribution;

using the computer readable medium~~computing~~ on a computer to compute a proposed inventory level based on said at least one characteristic, wherein computing a proposed inventory

level includes ~~refinancing~~ recomputing a probability term β having a distribution reflected by a difference term Δ_β and calculating the proposed inventory level as $I = A \cdot (R - W) - \mu + \Delta_\beta \cdot \sigma$, wherein I is the proposed inventory level, A is a part arrival value, R is a maximum repair time and W is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level;

selecting the proposed inventory level as the optimized inventory level if the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level.